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THE COLLECTIVE MIND

HENRY BRADFORD SMITH

The Collective Mind, Etc.

TO

ROBERT D. WILLIAMS

A SEEKER AFTER TRUTH

The Collective Mind

AND OTHER PHILOSOPHICAL PAPERS

BY

HENRY BRADFORD SMITH

PROFESSOR OF PHILOSOPHY
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PREFATORY NOTE

These papers which have appeared from time to time in popular and in technical journals, have, as the writer believes, a unity of purpose and viewpoint that is enough to warrant their inclusion in a separate volume. The last of the collection, an introduction to the method of Hegel, might have given its title to the whole, for this name would fairly serve to characterize the temper of the rest. If purpose and mechanism are two orders that are working themselves out in nature, it may happen that they are independent, the one of the other, in certain important respects. This distinction, based on considerations that appear elsewhere, has enabled the writer to discover to himself a new meaning in the conceptions of freedom and objectivity.

Lest the reader should fail to make out the underlying thesis at the end of his search, the writer will follow the prosaic course of pointing it out in the beginning. Suppose there should exist an analogy between the process that we call experience, and that other more special and simpler process that we call experiment; and suppose, instead of asking what is contained in the meaning of experience, we should ask the simpler question: What is contained in the meaning of experiment? We should then be led perhaps to the view that what is objective in the order of mechanism and what can be rationalized mean the same thing; that, in the order of purpose, an act is free in proportion as it is possible to attach to it an abstract or rational meaning.

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A Spirit
Which Includes the Community

A SPIRIT WHICH INCLUDES THE COMMUNITY

An able disciple of Auguste Comte has recently warned us again of the perils of communal and other spirits.[1] "When all the other ghosts have yielded place to relationships, physical, biological, or social which their presence obscured, there will still remain one ghost, so firmly entrenched in countless ways that it will not come under general suspicion for many years. And that one ghost is mind. Few today, even among specialists recognize that mind is like gravity, or like sickness, or like vital principle, simply an abstract name for certain concrete, describable relationships." So says Miss Sabin.

The lessons, which positivism knew how to impress so well upon the thinkers of the last century, can not be said again too many times. But a criticism, whose force depends upon an emphasis of half the truth, may easily over-stir the depths of one's emotional beliefs or unbeliefs — that muddy sea which surges underneath the intellect of man and over which the intellect stands guard, or should stand guard. Reading Miss Sabin's article, I felt myself gently tossed by the waves of this same ocean, and I had given expression to certain well considered thoughts in an article which shall remain unpublished except by title. It was called *On Losing One's Mind — a Sequel to Giving Up the Ghost.* But these reflections had come to have a front and back; and as their positive aspect began to interest me more and more, their negative side engaged me less and less. I had begun — but this was after all the revival of an old habit of thought

[1] Ethel E. Sabin, *Giving Up the Ghost*, Journal of Philosophy, December 16, 1920, Vol. XVII, No. 26.

— rather to mistrust the ancient device of bringing "will" and "memory" and finally "mind" and other diverse things under the same discredited heading in order to discredit them as well. Not that the argument continues to leave me cold. The opposite is the case. It is that whenever I meet a phrase like "slave-morality" or the "theological stage" or "mere metaphysics" or even "ghosts," I shrewdly suspect that the writer is seeking to betray my emotional nature into playing me some odd trick. Comte remarks: "Each one of us is aware, if he looks back upon his own history, that he was a theologian in his childhood, a metaphysician in his youth, and a natural philosopher in his manhood. All men who are up to their age, can verify this for themselves." It is the tight fit of categories so loose as these that renders them suspect.

A believer in the reality of ghosts and particularly in the reality of communal spirits, I have been cudgeling my brains for a formula which would epitomize the meaning of these sprites. Miss Sabin's definition fails to give me quite the sense of which I am in search. Moreover I wish to convince Miss Calkins too, so that my definition of mind must not be merely single-minded but must embrace communal minds as well. But let me have out with my thesis at once. Perhaps Miss Sabin will take it to contain the same sense as her own. It is this: Wherever there exists a conflict among points of view there is a mind. I do not say that this is all that goes to make a mind. It is only an essential character. If it be not a sufficient condition it is at least a necessary one. What it is that constitutes a point of view and when it is that they conflict, are matters for the logician to unravel. Here it will be enough to illustrate our meaning. Let us begin with the simplest examples.

Consider, if you will, the case of any object of perception. I walk around the table and observe it from many points of view. These points of view conflict. Accordingly, a mind is involved in the total situation. The real table, the only real table, is the one which emerges, through a reconciliation of the conflict. Your *ens realissimum,* Sir Realist, is an empty class. Suppose now that a number of observers be seated around this same table, this time the object of their joint perception. It is clear that their points of view conflict. Accordingly, a mind is involved in the total situation — a group-mind, if you like, and as simple an illustration of such a mind as might be cited. "Many men, many minds" is no less proverbial than the "man of many minds." It is accident, pure and simple, where these view-points are placed, provided they conflict. This is the contention.

One may easily, if he likes, multiply illustrations of how points of view may be reversed without effecting any higher synthesis. Compare a passage from the pen of Romain Rolland, which the London *Morning Post* would have applauded no doubt and quite properly in September, 1914, when it was written, with a passage which the *Morning Post* publishes in 1920. "Our France, which bleeds from so many other wounds, has suffered nothing more cruel than the attack against her Parthenon, the cathedral of Rheims, Notre-Dame of France. . . . The fact is that we regard the spirit higher than the flesh. Very different in that respect from those German intellectuals, who, one and all, at my reproaches for the sacrilegious acts of their devastating armies replied with one voice: 'May all the world's art perish rather than a single German grenadier'." Here speaks a fine and gentle spirit and this is its echo. "For ourselves we

count the Carnegie Library and the Municipal Offices of Cork as dust in the balance compared with the loss of those dear young Englishmen slaughtered while doing their duty." Perhaps it would be an exacter analogy were we to compare Cork and Louvain. It is right to say that the English press (mindful of this last analogy) does not agree with the *Post.*

If any one wishes a further example let him tax his brains to discover a difference between the slogan "America first" and "Deutschland ueber alles." A cry, which properly excited universal and derisive opposition in 1914, may help to win a national election in 1920, when the boot is on the other foot. The late unpleasantness in Europe, instead of effecting at once a higher moral synthesis, ends with our adopting so many instances the point of view which we set out to destroy. The limiting case of this method of settling a difference of opinion is revealed in the tale of the two knights, who fought about the color of the shield, when each had looked upon one side only — the side his opponent had not observed. You may imagine each one crying out as he attacks the other: *Magna est veritas et praevalebit!* Far from the belief, however, that no higher moral synthesis has been evolved and will one day play its role, I prefer to dwelling on such particularities some higher aspiration as an article of hope if not of faith. Hegel says, "like the soul-conductor Mercury, the idea is in truth the leader of peoples and of the World; and Spirit, the rational and necessitated will of that conductor, is and has been the director of the events of the world's history." *Mens est omne magnum humanum.* And Auguste Comte remarks:

"Ideas govern the world or throw it into chaos; . . . the great political and moral crisis that socie-

ties are now undergoing is shown by a rigid analysis to arise out of intellectual anarchy. While stability in fundamental maxims is the first condition of social order, we are suffering under an utter disagreement which may be called universal. Till a certain number of general ideas can be acknowledged as a rallying-point of social doctrine, the nations will remain in a revolutionary state, whatever palliatives may be devised. . . . But whenever the necessary agreement on first principles can be obtained, appropriate institutions will issue from them without shock or resistance, for the causes of disorder will have been arrested by the mere fact of the agreement. . . . Now the existing order is abundantly accounted for by the existence all at once, of three incompatible philosophies, — the theological, the metaphysical and the positive. Any one of these might alone secure some sort of social order, but while the three coexist it is impossible for us to understand one another upon any essential point whatever." But for Comte in his way, as for Hegel in his way, some sort of conflict is essential to the being of mind.

For Renan too the human spirit discovers the very stuff of which it is made in the insoluble problems that attach to it. "Such is the situation of the human spirit," he says. "An immense problem is before it. The solution is urgent . . . and the solution is impossible. . . . To seek stable equilibrium and repose in such an epoch is to seek the impossible. . . . The calm is only an armistice, a point of arrest, where society pauses to catch breath. . . . For the century supports a problem that is both inevitable and insoluble. In such epochs . . . he who is not embarrassed is a small mind or a charlatan."

There are times, you will say, when the mind plays host not to a conflict but to a reconciliation of the conflict, when it occupies itself in the contemplation of unvarnished truth. But these synthetic formulas, which yield up the truth about the world, if they convey any meaning to the mind, stand always for an act of recapitulation — an act in which the one may again be seen as emerging from the many, in which the many may again be seen as shot through with what is really one. Too little is it realized that every act of perception is at bottom a *tour de force* and this fact is little recognized because this *tour de force* is generally and habitually *en un tour de main*. "In all that pretends to the name of science," says Hegel, "it is indispensable that reason should not sleep — that reflection should be in full play. To him who looks upon the world rationally, the world in turn presents a rational aspect." To invite the noviate who has entered the gateway of science to find his way through to the end, is the same as to tax his faith with this fundamental demand: "Look, Sir, upon the world rationally and the world will in turn present a rational aspect. The relation is mutual." But such a striving for a rational understanding of things is as easy to recommend as it is difficult to practice, for every man finds about him, not inevitably a world of pure being but a world becoming; not a world ready made but a world in the making. The world of pure being is the world that continually emerges as the result of an habitual *tour de force*.

I know that to many a reader this statement of the case will appear as one of those time-worn Hegelisms and so as something manifestly true or clearly false. To others it will seem as if the matter thus conceived were over-simplified. The "modern" logician will be

specially distressed for the sound of wheels going round is scarcely audible. Consider an example which might suggest itself as not a case of mind at all and yet as a case of mind by definition. The point of view of the Martians and that of ourselves conceivably conflict. Suppose their foremost speculative physicist, whom we may refer to familiarly as Skygad, does not agree with Einstein concerning the nature of mass. Is it fair to call this difference of view, the combined divergence Einstein-Skygad, a group-mind? I should answer, Yes. And why do we hesitate to call it a case of mind? Not because each view is unconscious of its opponent view. Conflicting views abide in any mind without consciousness that they conflict. We hesitate to call the conflict of our view and the Martian view a case of mind because there seems no practical prospect of a reconciliation. It is here that reason sleeps and progressive reconciliation of the conflict seems essential to the being of mind. But *mens semper cogitat,* if it be true, requires interpretation.

I recall having seen long ago a cartoon representing this same Skygad on visit to the planet where we find ourselves. Accident had led him to a chess resort and he was making an entry in his diary: "Came upon two strange earth-beings in dispute regarding a set of diminutive idols. First one and then the other demanded some special arrangement of the idols; after which each one lapsed into sullen silence." It is clear that the Martian regarded such employment as serving no fair end. His own view and that of the chess enthusiasts did not conform. Who shall say what each might not have gained through a sympathetic understanding of the other!

The Collective Mind
An Illustration

THE COLLECTIVE MIND — AN ILLUSTRATION

Of all the facts which had a bearing on the war not one had impressed me more than this: that no one deemed it necessary to establish a general point of view before he came to judgment; that each one preferred the genial warmth of his own prejudice to the colder comfort which a bit of hard thinking might have yielded him. If anyone were to charge me with having been as wayward as another and more wayward than the most in this regard, I should have had to agree that he was right; but by way of checking this waywardness in myself I had come to have a modest philosophy about the war and this I shall now set forth in the hope that it will interest another as it has interested me. In point of fact its truth or untruth is independent of any application which I may choose to make. One may allow my thesis and still deny that the facts in question illustrate my meaning. The last part of my chapter will contain my own private application to certain events that are now notorious; the first part will try to make clear the difference between social purposes and those of individual men. My thesis is that the organization of social purposes is independent of culture. Privately I am inclined to regard the two as hostile to one another but that is an application of my philosophy which no one is bound to accept.

In a group in which each individual strives to realize his own ends, frequently in conflict with those of others, these social purposes crystalize out, and act and react upon those of the individuals that constitute the whole. The creation of a state constitution, the

desire for national expansion or the proclamation of a holy war are all expressions of such social purposes. They may have an intimate or only a very remote relation to the interests of the individuals who form the medium through which they find expression. They seem to come into being without the volition of any one, gathering momentum as they go, sweeping aside all private interests, until the individual, caught up in the torrent, loses his independent judgment and becomes a mere echo of the social mind. Numberless echoes of this sort were born to our ears those days through the columns of the daily journals but let one illustration suffice. It is the case of a man accustomed throughout the length of a long life to weigh his words, who can describe a social purpose whose avowed means are those of organized slaughter, in words like these: "Our law is reason, our strength the strength of the spirit, our victory the victory of thought. We are truthful, our characteristics are humanity, gentleness and conscientiousness — the real Christian virtues. In a wicked world we represent love and God is with us." * Here it is not the individual that speaks, for he is not stupid enough to utter a falsehood quite so palpable. The social mind is troubled by a question in casuistry. Its way of setting its doubts at rest will hardly deceive any one but itself.

Now this distinction between the purposes of a group and those of the individual is very important and one which the critics of the war had generally failed to make clear. They wished to absolve the German from responsibility for the calamity and yet put

* Adolph Lasson, a privy-councilor and professor in the University of Berlin, in a much quoted letter printed in an Amsterdam Review.

the onus on Germany. Their way had been to let off the man in the street and saddle the blame on a smaller group, the Junker class. They could not understand an immoral act for which no individual as such is directly responsible.

Allow me now to lay down certain distinctions, which will aid me later on to make my meaning clearer. Suppose we class the moral nature of different men as being roughly of three sorts: the *brittle,* the *elastic* and the *malleable.* (The man whose moral nature is brittle refuses to yield to the conventions in current belief.) His position in society is always precarious and if it lead him to a radical break with the moral law, he becomes the typical criminal. He has strength but he is incapable of appreciating finer and more delicate ethical *nuances.*(A man whose moral nature is malleable runs smaller risk in his relations with other men, for easily bent to a belief in decalogues, he accepts his creed on authority; he too is incapable of making fine distinctions.) He is weak because his own nature is no longer a surpassing problem. He may resist temptation because temptation seldom passes the threshold of his consciousness. (But if a man's moral outlook be elastic, his nature is strong but under a fine control.) Keenly aware of subtleties, he is suspicious of easy solutions. He bends to the law but always with reserve. Avoiding the obvious clue to act in such and such a way, he is apt to fly back in some unexpected fashion. The moral reaction of our malleable types is easy to predict, but that of the elastic nature always offers a surprise. It need not be insisted upon that we mean this last to stand for the highest of the three divisions.

Let us now proceed to apply these distinctions to the problem which engages us. These three types find

their counterparts in the larger whole and the social mind which says that national ends justify any means, that the public law of Europe is a "scrap of paper," is a moral nature of the brittle sort. For forty years it had been treading on thin ice. A little while back the ice broke and the criminal character which up to then had only been suspected, stood revealed. The allied nations were right when they laid claim to the guardianship of international morality against a criminal attack. Not that this social mind which became a criminal at large, had no conscience at all. The violation of Belgian neutrality was for it a very serious question in casuistry and its soul was torn and lacerated in the struggle to set itself right with the rest of the world and with itself. But its moral nature was too brittle and refused to yield. "We know that we are committing an injustice," it said, "but we will try to make this injustice good as soon as our military aims are accomplished facts." *

The social purpose, then, may be intelligent or stupid or criminal. It constitutes an end that can be judged in the same way as those of the individuals who form the medium through which it finds expression. It may be brittle, elastic or malleable. The social purpose expressed in a state constitution has attained at least partial success in becoming elastic, for it bends and reacts in relation to the conflicting interests and purposes of the individuals that make up the group. But the social purpose that has crystalized into the desire to conquer is of the brittle sort; one sees that it yields nothing to the purposes of men; one knows that war, for no better purpose than this one had, opposes human aims without serving them.

* Herr von Bethmann-Hollweg's speech in the Reichstag.

To admit this is to term such an undertaking immoral and criminal. A social purpose, then, may be born of the conflicting purposes of men, for which no individual can be held directly accountable. It may be born in a social medium whose units are governed by passion and unreason, and yet be highly moral in itself, as the French revolution shows. Or it may come to light in a medium whose units, accustomed to stifle passion, are calm in judgment, are as intelligent as you like, and yet be the very embodiment of immorality. I am tempted to view the late war as the effect of such a cause.

What can be the ideal relationship between social purposes and those of individual men? Just the same as that which connects a man's moral creed with his own separate desires. A man's morality is a sort of collective mind which persists among his many selves. It safeguards each self from the encroachments of its fellow selves and from itself. That self which would dine well today is put under restraint that it may not starve tomorrow. That pleasure-seeking self is given only its fair share of license that some other better and higher self may have its innings too. But every man may have too much or too little of this ingredient called morality, and here as elsewhere a man is very commonly a fool or his own doctor. The ideal is the minimal dose which will serve to keep his private interests under a fine control. Those that exaggerate the tonic are mostly the extremely young and the extremely old. Such a creed is essentially tolerant. It will no more think of denying a man his modicum of morality than it will try to shorten his allowance of nicotine — just as one would not insist that his friend leave his overcoat at home because he happens to be warm-blooded himself. But it will be suspicious

of the man who insists that his dose is your dose, who proclaims that all moral natures ought to be cast in the same mould. And this was the fault with the propaganda of Kultur, for it set out to be the world's doctor.

The meaning of liberty according to our democratic tradition, — the Anglo-Saxon and the French — is that each one shall create his own culture after his own heart and that the state shall build fences about his efforts as little as it may. Renan in one of his striking passages remarks:

"I have before my eyes in writing these lines the great miracle of royal France, Versailles. I repeople in spirit these desert spaces with the great figures of the century. The King in the center. Here Condé and the princes; below, down yonder alley, Bossuet and the bishops; over here, Rasince, Lulli, Molière, and already some libertines; on the balustrades of the Orangerie, Madame de Sévigné and the *grandes dames*; there below again, within the sad walls of Saint-Cyr, Madame de Maintenon and — *ennui*. Behold a civilization, certainly with defects, but perfectly one and complete. It is one form of humanity, like any other. It would have been too bad after all, had it not been represented."

The Prussian view was exactly the opposite of this. It believed that there is some one best system, by which the efforts of men may be directed. According to this view the individual finds his freedom in obedience to the moral law, whose visible analogue is the Prussian state. Unconsciously the course of world history revolves about the illusions of the world's philosophers. The struggle to decide whether or not the Prussian sort of freedom should prevail among human kind was settled, we may hope, upon the battle

fields of France. In that life and death grapple, that view of life, which sees no virtue save in the sacrifice of the individual that the state may gain, had its distinct advantage over that other attitude, which cherishes human life that culture and civilization may live on.

"I am now going to make clear to you," said Professor Ostwald, "Germany's particular secret. We, or more specifically the Germanic race, have discovered the factor of organization. Other peoples live under the regime of individualism, we under the regime of organization. The stage of organization is a higher stage of civilization." And again: "Germany is going to organize Europe, for Europe up to now has not been organized. . . . With us everything tends to draw from each individual a maximum of return in the sense that is most favorable for society. . . . The war will cause these (other peoples) to participate, under the form of this organization, in our higher civilization."

"Admire if you can," said Romain Rolland, "this manner of speaking of human culture, as if one were concerned with the culture of asparagus and artichokes! It is this happiness and these profits, this maximum of return, which the other peoples of Europe are not to be deprived of. And since they are not sufficiently enlightened to submit to it with enthusiasm." . . .

The opinion of Thomas Mann, equally interesting, was somewhat different. Oswald had endeavored to identify civilization and Kultur. Mann announces: These two "have nothing in common. The war is a war of Kultur against civilization." The defining characters of this last are reason (*Vernunft, Aufklärung*), softness (*Sänftigung, Sittigung*) and spirit

(*Auflösung, Geist*). Kultur, in contrast to these attributes of social forms in decay, proposes "a spiritual organization of the world." It is "above and beyond morals, reason, science," *die Sublimierung des Dämonishen.* "Force alone! Silence about the rest!" he says. Kultur the brother of militarism is the enemy of the spirit. *"Ja, der Geist ist zivil, ist bürgerlich."* And Harden exclaimed: "Right? Our force will make new right in the world."

To this much I hope you will agree in theory, even if you deny that my illustrations here apply. (When I say that social purposes are relatively independent of the interests of individual men, I mean that they do not always serve those interests.) But now I am on the point of going farther. (I am going to insist that they are too often in opposition to human interests.) A *Kulturstaat* may be a very live reality, but a culture-state is an absurdity, because culture is a matter of individuals and not an affair of social organization. Its attainment depends upon the production of exceptional men and history seems to show that a highly organized state works against such production. Göttingen is a Mecca for the mathematician because of a line of famous men who taught or who still teach there. Johns Hopkins a few years back owed its preeminence to a group, the like of which has never been gotten together in our country before or since. (Their organization was little enough, and they cared still less about it or the material equipment that surrounded it.) Not only is it true that the organization of science can never produce culture; it is always the enemy of culture when carried too far; and this is apt to have happened so soon as it has become too conscious of itself. So soon as it begins to talk of imposing its system on some one or some-

thing else, it ought to become an object of suspicion. This is a symptom of its disease, the "disease of organization." A great university is made up of a group of exceptional individuals and the looser their organization the better for it and for them. So it was with Germany. Organization had become too conscious of itself and too proud of its supposed achievements. This would have been harmless, except as a check to individual initiative, if it had not, with the stupidity that too often characterizes the social mind, sought to extend its benefits by its own brutal means. These means seem strangely to resemble those of the very primitive individual mind.

There are those who would have it that there is more of fiction than of reality in the notion of a group mind. Our Anglo-Saxon habit of avoiding nice distinctions had forbidden us to fix a serious eye on so trumped up a ghost as this one seemed to be. Since that time we had watched it planning its spring at the throat of Europe, we had seen its frightfulness ride through Belgium on broken faith. We had sat idly by while it scattered the public law of Europe to the four winds, and we had followed those vain struggles of conscience to set itself right with itself and with the rest of men. The rush of it, wave on wave, sweeping aside all private opinion, until that opinion became but an echo of itself, had left small chance to doubt that its torrential force was real.

Is this national consciousness a check to national achievement or is it not? At any rate there was less of it in the old Germany, the Germany of Kant and Goethe, of Hegel and Heine. At any rate after the craze for national aggrandizement died after 1870, France produced a group of artists, scientists, philosophers and men of letters hardly eclipsed by any other

period of her cultural history. Two of the greatest periods for culture in human history — Greece before the time of Alexander, and Italy of the Renaissance — were periods of political atomism. The Greeks never achieved political unity until the flame of their genius flickered out, and when that national unity came it was followed by an age of soulless unproductive learning. Historical analogy alone would have its reasons, were there no others, for the right of the small state to survive and work out its own cultural destiny. Jerusalem, Athens, Florence! These are surely names enough. And what did a millenium of Roman despotism produce to match the art of Flanders?

The land of Kultur was no longer a land of culture. The great cities of modern Prussia had small native growth save vice and materialism. Whatever had to do with the spiritual side of life had been squeezed in from the outside. Whatever parcel of her art was not false, extravagant or obscene had its origin in the provincial centers, where the spirit of the old Germany still lingered on. "Several centuries must elapse before it can be said of this race: it is a long time since they were barbarians," said Goethe. It was the old Germany which produced the dreamer who uttered these words, the greatest spiritual thinker since Dante.

Was the war inevitable? Apparently so, for this monster is born into the world from time to time. The individual must then go forth to destroy it, and must triumph finally; for should he fail and save his body, a spiritual death awaits him at the end. Rome against Hellas! Ah! dear France! *L'attrait du sacrifice est au fond de toutes les grandes passions!*

Fact and Choice

FACT AND CHOICE

To err is human, but nature is above deceit. Let the issue then be tried out in practise; whenever one has a matter to verify let it be put to the test of experiment. This has always seemed sound method, so often as man, wearied with seeking truth in the innermost self, has turned to put his questions to the world about him. Too long has man's mind played the sphinx, says this faith. Interrogate a deity which can not play you false, which can be called upon to answer every riddle which concerns itself. Wise is he who knows how to turn the lofty unconcern of nature to satisfy his human cravings.

But is there, after all, as some would say, a type of judgment that can never be made an experimental issue? The wisdom which counsels us to bow to nature's hard inflexibility is not the wisdom which concerns us here. Is there any class of facts which can never take us unawares? Are there cases where the issue of experience can never yield the unexpected?

The chasm between nature and man's will does not yawn quite so wide when one has understood that facts are not as rigid as they seem. The gap is further bridged when one has come to know that the will to understand the world no less than nature may set at nought our wishes. A science well enough may fail to shed light on the dilemma which was the first source of its systematic dress. The bright spark cast off from the wheel of life and born to illuminate some dark corner of the world may easily light up some other unsuspected nook. The genial insight, the dis-

covery which marks an epoch, a simplification in the scheme of things, that yields man transient satisfaction, may be the result of conscious groping in quite another direction. The will obeys its self-imposed limitations as nature obeys her laws. Has nature her surprises, the will has its caprice. If a gulf be fixed between the facts which man discovers and those which man invents, the clue to its character will not be lurking here.

The problem may be stated in a variety of ways. Whatever has been read into the context of experience *überhaupt* will turn up again as an element of separate experiences. In such instances we like to say that we have only discovered such and such a trait of experience because we have managed to invent it beforehand. It is notorious how often we are put to it to say whether the outcome of an experiment yields a novelty or only serves to illustrate a definition. This doubt is felt by those, for example, whose habit of thought it is to contrast that series of points, which exhausts the mathematical continuum with that other series of points, which, they say, goes to make up the physical continuum. It is not the fear that the experience of continuous space may some day furnish us a "surprise" point, which has no analogue in the number series, that introduces this distinction — as the arrow-point moves back and forth over the scale each reading is a point in the mathematical series. The physical continuum is introduced in order that each new type of point interpolated in the mathematical series shall be guaranteed an application to the space of "reality." If now it turns out that only three point-types result from our definitions of number, the potential points of the physical continuum are all real and the distinction between the mathematical and

physical has disappeared. Surely here is a case where experience can never take us unawares; and yet this ghostlike reservoir of potentialities continues to haunt the thought of not a few of us.

In throwing a die we predict that the frequency of each event will even up in the long run. But this prediction can neither be confirmed nor rejected by experience. If each event occurs n times in $6n$ trials, the truth is only served *per accidens*. If n be large and n trials yield the same result we speak of a run of luck. No matter what the outcome, the experimenter never will be forced to modify the law; he will always lay the fault to his experiment, for he is concerned with a matter of definition. If you were to ask him to name the ideal conditions for his experiment's success, he ought to say: those conditions which tend to confirm the law; a die is a good die if the frequency of the different events approaches equality.

Are there judgments of fact whose truth can not be made an experimental issue? This is a question which has always had an important bearing on the meaning of definition. The answer that has been given to it has often decided for a philosopher what his understanding of definition and choice must come to be. The relationship between this question and the meaning of choice has proven to be intimate because a philosophy which does not take freedom into account could never make us understand how knowledge comes about at all.

The choice of an hypothesis which explains established facts and which we must be prepared to give up in the light of a richer experience is a familiar instance of the exercise of freedom. We place our faith in the dogma that fuller knowledge will tend

more and more to compromise a false hypothesis while it renders a truer one more workable. This dogma is a matter of definition, for this is what we mean by truth. Such a choice is the fruit of ignorance and may cease to be a choice as soon as observation is carried far enough. An hypothesis, based on an induction of known facts and which could outlive any experience, however rich, would be an absolute too thinly veiled to tempt any but the most untutored impulse to belief.

Freedom itself seems at first sight a fact which can never be made to bow to the issue of experiment. Might not ignorance be so far entrenched, might not the balance be so delicately set that the most fleeting force would turn the scales and decide the choice? It was for that passing force that the ass of Buridan must have prayed when he faced starvation because nothing could just happen and without any cause. Can experience decide for or against the "law of the reason"? The materialist will answer No and he will add that it is because we can never know enough about the conditions that are involved. Others, answering No, would say that it is because an experience from which ignorance has been completely banished could not be experienced at all — that one can not come to know unless he can come to know better.

Descartes brought a novel conception to bear upon the problem. His instinct told him that mechanism must not be so conceived that it leaves no room for choice. Unsatisfying as his answer was, even in his own day, it yet served to keep alive the difficulty. The law of the reason holds without restriction save at one exceptional point. The soul seated in the pineal gland looks out upon a universe for which God legislates, upon which God has stamped the necessity of the me-

chanical order, and from his vantage-point this soul may from time to time effect changes in a nature in other respects divinely ordered. For Descartes's follower, Spinoza, man's freedom is the only blemish in a perfection otherwise complete. Just as a surface may show a discontinuity, where the axioms that determine its geometry do not hold, so does this soul of Descartes enjoy exemption from chain of matter. Its freedom is guaranteed by a discontinuity in the mechanical order. It is the only loose joint in this system of rigid connections that joins axiom with theorem. To render intelligible this new conception was the task of Descartes' successors. Its originality compelled attention in a later day when mechanism was achieving some of its most brilliant triumphs; when a desire for the continuity of mechanical explanation must have sorely tempted men to give it up.

Kant, too, saw that choice must not be entirely arbitrary, that it must always take certain restrictions into account. The earlier stages of his thought represent these restrictions as absolute. Later he was untrue to his earlier point of view, which crowds freedom out of experience altogether, and it is to his infidelity that he owes his deeper insight. But apart from the fact that the Cartesian manner of understanding human choice was seemingly for Kant a view outworn and repudiated by its consequences, it nevertheless contained a certain germ of truth which may well have determined the meaning which Kant put into his doctrine of choice. After all is said, the supersensible world is only a discontinuity in nature, a loose joint where freedom finds a certain play. That self caged in the pineal gland, which is in the world, but not of it, is not so different from that other self seated in the noumenal world aloof from appear-

ances. Was it not natural for Kant to declare that the self which legislates for nature is somehow exempt from the mechanism which it reads into the world?

To every student who has carried his studies no further than Euclid, geometry must seem the very embodiment of a necessity that leaves no room for choice. Here is truth absolute from which doubt has been forever banished — or if the caprice of accident find expression at all, it must be sought in the application of the science, in the freedom to relate this universal truth to any particulars we please. This conviction is a normal one. It was shared by every mathematician up to the beginning of the nineteenth century. Logic, geometry, and astronomy were the flower of the Greeks' scientific bequest to man. Such was the spell which these triumphs of the Greek mind cast upon modern thought that for two millennia no one had ventured to imagine that here lurked any opportunity for freedom to find expression. The first emancipation from this spell came in astronomy. Copernicus showed that the Ptolemaic system was not the only way to describe the motion of the heavenly bodies. He demonstrated the possibility of a non-Ptolemaic astronomy and pointed out that the new view had an advantage over the old in the ease with which it could be applied to the prediction of celestial events. He intimated that the selection of a point of rest in the cosmos is arbitrary and a matter of choice. Geometry had to wait longer for its Gauss and biology harbored the belief in the Platonic doctrine of fixed types until the time of Darwin.

Such episodes as these illustrate Kant's insight into the meaning of choice. Human freedom can only be understood in the light of its history. It is knowl-

edge that is *allmählich* and not *einmalig*. Not a reason independent of the will is the guide that fashions and controls belief, but the will acting under its self-imposed restrictions. Kant was the mind that was the first to see this clearly. He saw that freedom is no gift which God has conferred on all men alike, a property as it were of our common humanity. No man is free till wisdom guide his choice. A valid choice is not alone a creative act. It is only brought about by a will that has long been tempered by debate, that has long been schooled by a dialectic experience not all its own creation, but in larger part bequeathed by the past. The consequences of a decision must be clear before that decision may become a conscious choice. To bring these consequences into the light may cost the genius of centuries. The denial of the fifth postulate of Euclid could never have succeeded until it was foreseen that two more fundamental sciences, logic and arithmetic, could not be affected by the choice of another assumption. The emancipation was brought about slowly, the point of attack beginning where the Euclidean system was weakest, that is to say, with the difficulties surrounding the notion of parallels. When it was seen that the consequences of denying the parallel axiom could have no bearing on the other axioms or on logic, the nature of the space we live in turned out to be a matter of definition. Thus one can point to a few brilliant episodes in the history of thought to illustrate his meaning when he says that man's freedom is realized gradually as the result of many struggles — struggles requiring at times long periods of silent preparation to achieve their triumph. A science can not commit itself to the consequences of a choice until it has come by the wisdom to foresee the effect

this choice will have upon its cognate disciplines, and this wisdom is the fruit of a schooling which no one mind may enjoy until it has become the inheritance of mankind at large.

The struggle for political freedom is of the same sort and exemplifies the same conception. Renan says: "Those who envisage rights in the absolute sense resent the facts of history which are the most necessary. But this manner of conceiving the problem has aged. The human mind has begun to pass from the absolute stage to the historical. It now views each event under the category of becoming. . . . It is certain that civilization does not improvise itself, that it exacts a long discipline, and it is rendering a poor service to an uncultivated race to emancipate them at a single stroke. . . . The young lion rouses himself for the hunt when he feels his strength and without being told. . . . Nothing is explicable in the moral world from the point of view of the individual. All is confusion, chaos, revolting iniquity, if one does not envisage the transcendental result, where everything is harmonized and justifies itself. Nature shows us on an immense scale the sacrifice of an inferior species in order to realize a higher plan."

Necessity and universality were the two characteristics which Kant was fond of pointing to as marking the essence of an *a priori* judgment. Will we do violence to his thought if we put his formula in another way? Can the outcome of the experiment be predicted before the experiment is made? and, can any experiment be imagined which would force us to revise our prediction? If the matter were put so our criterion would border perilously on the subjective. What meaning then are we to find in the *a priori* of Kant and still leave a place for Kantian freedom.

This brings us to our conclusion. (An *a priori* judgment is one whose truth can not be made an experimental issue.) Here there is standing-room for absolutist and humanist alike. Their quarrel will hinge upon what one means when he speaks of the impossibility of empirical verification. A philosophy which conceives truth as if it were a static whole, will be apt to make this impossibility absolute. But a philosopher, who views the world dynamically, will find that the denotation of this class of judgment is contingent on a thousand issues, each one relative to itself and to the others.

Liberal Study and the Free Man

An insight is *catholic*, when it is alive to more than a single point of view and when it is aware that points of view conflict. One possesses this trait, if he can step into another's boots, if he can with sympathy look out upon the world through the eyes of other men. If our souls were less intimately chained to our corporeal being and could from time to time take up their abode in other clay, prejudice would no doubt be moderated and that decentralization of the ego, which is the first condition of a catholic taste, would be supremely aided.

The pursuit of truth is *disinterested* when it has ceased to serve and gratify our merely private desires. A condition of this pursuit is a recognition that the order of nature does not invariably conform to human wishes, that this order possesses a dignity that surpasses one's own small place in the world, that demands, accordingly, something that approaches an absolute respect.

A man is *free* in so far as this decentralization of himself has been profoundly brought about and liberal studies are precisely those best calculated to produce this same effect. It is clear that our list of liberal pursuits will contain none that produce merely vocational aptitudes, for these have an eye to private and, indirectly, an eye to public advantage of a different sort. A man may gain his private aims the more effectually because of a liberal education or he may renounce his private aims the more intelligently for the like reason. It is not the purpose of a liberal education to effect these or any other concrete ends.

Rather it will leave the result in the case of each one the less determinable, the less easy to predict. In a word it will leave one free. It will provide one with so many sided an outlook upon the world, that his decision to make of himself what he will, will be based upon what may fairly be called a rational ground. He will have become a responsible agent and will accept the consequences of his decision as those of his own choosing.

You propose to prepare this child, who is the father of the man, for "life," you say. Yea, for life, but not for a life of his own choosing. By a special education, you have settled his destiny in advance, you have made the possibility of future choice abortive. This is the essential sin against the holy spirit of man. It is also the stuff of which social revolutions are made, for deep down in his heart he will harbor his resentment. His destiny has not been one of his own making and he is in no way bound to accept its consequences. In point of fact where lies the richest soil for social unrest? Is it not among the class of the vocationally trained, who feel that they have been somehow deprived of their spiritual birthright? In this direction lies one of the most deep-seated causes of moral discontent.

Liberal studies then are those that produce the free man and the free man is he who can justify his acts and in some sense his very destiny on rational grounds. Suppose a man, who is by temperament a non-conformist, impelled to oppose some social convention which he judges to be false. His effort fails and the community regards him a crank. He is rated not as a person of sane judgment and so not as a free man, but rather as the victim of his own misguided temperament. The man himself, however, knows his

family history. He reflects that his father and some of his remoter ancestors had experiences like his own; that they not infrequently espoused a cause which failed at first but which triumphed in the end. "I am a chip of the old block," he says to himself and finds no little satisfaction in the thought. And why? Because his own behavior is no longer an isolated fact. It has been rationalized because so far shown to be a case of something that is operating in a universal sense. He is so far a free man and a responsible being because he has given his act an abstract meaning.

Royce somewhere remarks in substance, that it is those misfortunes of life that cannot be foreseen, which particularly discourage us — those slips of destiny, the fruit of a seemingly hard and unrelenting providence. A man must be an optimist indeed, who imagines that scientific prophesy will one day banish all the tragedy, with which our common human nature is beset. Now liberal studies are those which create the free man and they effect this by saving him from the grasp of grosser circumstance. They prepare for life but for no particular life, for no special vocation. Their applications will, accordingly, be incidental to their pursuit and not ends in themselves. They will purport to furnish a general theory of the universe, to which particularities of daily life may be attached. The world of common experience is a collection of concrete objects largely out of conscious relation to one another. The liberally trained mind is forever seeking out the connections of things, uniting the discreet parts of the world in one intelligible whole, interpolating, filling in, creating continuity, bringing individual facts under an abstract point of view.

It is clear that our list of liberal studies will contain besides the philosophical disciplines the pure as well as the experimental sciences and literature in its various forms. De Quincey was fond of distinguishing between what he termed the literature of knowledge and the literature of power. It is the literature of power that stirs the fancy, that gives wing to the imagination of man. But this distinction is relative, for be it known that every act of knowing is as much an act of the imagination as the recognition of a fact. There is a deal of knowledge which cannot be expressed in the technical language of a science; for example, those insights into human nature which satire reveals. Such truths are but partially expressed, they may even remain inarticulate, in the absence of any genuinely literary art. Insight and the art of expression must go hand in hand. A good style is so far a wasted acquisition if it be not the instrument of a fine intellect.

The disinterested interest in truth for its own sake, which it is the end of a liberal training to awaken and foster in each man, is in some rough sense a measure of his intellectual power, for it feeds upon success. A liberal training is a voyage of discovery among the islands of abstraction, among the facts and fancies of the representative intellect. For the most the routes are charted in advance. The traveler must serve his nautical apprenticeship before he ventures into unknown seas. The higher adventures reserve themselves for those who have the will to seek them out and the wit to carry them through.

But the disinterested interest in truth for its own saks is more than all this. It is the very soul and substance of our human progress. Had the Greek

geometers professed no curiosity in the properties of conic sections, the science of navigation and many another science would not have been born. There was no domain in the vast regions of pure and applied mathematics which Carl Friedrich Gauss did not enrich with his masterly contributions, but he was impatient of the demand that theory should justify itself by applications. "No one, thank God, has yet been able to apply his knowledge practically in this field," he said in substance of that non-Euclidean geometry, whose existence he was the first to recognize and whose content he was the first to develop. The work of Marconi became possible for the first time, when the theoretical labors of Faraday, Maxwell and Hertz had been consumated. The American genius for practical inventions, of which we are prone to boast overmuch, depends upon scientific research, which calls for genius of a rarer sort. Industrial triumphs occur as almost necessary incidents, when liberal knowledge has reached its full fruition.

Today we profess an unbounded faith in the power of public education to cure our social ills, but we may well fear lest the stream become polluted. The more enlightened men are the more free will they become. The eighteenth century, a time in which so much of our political liberty was won, might yield us many a warning. That supreme optimist, the Frenchman Condorcet, says: "Political enlightenment is the immediate sequence of the progress of the sciences." But "let us not challenge the oppressors (the princes) to league themselves against reason; let us carefully conceal from them the close and inevitable connection between enlightenment and liberty; let us not teach them beforehand that a nation free from prejudice soon becomes a free nation."

Renan says: "The final state of humanity and, consequently, the end which politics ought to propose to itself, is to realize the highest human culture possible. . . . Grant that our own planet should be condemned to attain only mediocre results; that routine, under the pretext of saving the dogmas of which it has need, should destroy the scientific spirit; . . . what would be the loss to the universe as a whole? The same as . . . (the fate of) a germ of life, which in the mysterious night of its generation, finds not the conditions favorable to its development.

Adieux, let us always search!"

Mind in the Mechanical Order

MIND IN THE MECHANICAL ORDER

If I have properly understood the intent of the article on "Pragmatism and the New Materialism." [1] Professor Lovejoy's criticism is directed not altogether against pragmatism and behaviorism as such, but rather in part at least against certain philosophies which, having on some points misunderstood the meaning of these movements, have yet taken on their insignia and ended by deforming the spirit of their thought.[2] While it is not always easy to distinguish between the behaviorists[2] and those who only call themselves such, I have unavoidably the impression that a part at least of the polemic is directed against some of the neo-realists, who have "joined forces" with behaviorism, rather than against the original representatives of the school itself.

When Mr. Lovejoy proposes to the pragmatist, or to any one else, his five conundrums about the place of mind in the mechanical or "physical" order, one has a right to know what he means by his terms. "Physical" means, he says, "occupying a position in objective space and existing as a part of the sum of masses and forces dealt with by physical science." This he quotes. Does he agree to the meaning or does he even think that the statement is clear? Does any one suppose that the physical order is independent of

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[1] *Journal of Philosophy*, Vol. XIX, No. 1.

[2] The thesis that mind is describable in terms of behavior was first elaborated by Professor Singer in a series of articles in the *Journal of Philosophy;* 1911, p. 180; 1912, pp. 15 and 206; 1914, p. 645; 1917, p. 337. These papers easily remain the best formulation of the behavioristic standpoint.

mind. Or does not its nature change as the mind succeeds more and more in imposing it upon the world? For the mechanical order may not be absolute; it may be slowly evolved by means of the twin factors of experience and reflection. Let it not be forgotten that mass and space and time change their meaning as experience is enriched and reinterpreted; that the mechanical order of nature is not the absolute and static system it was taken to be, when it achieved its first successes. Does any one suppose that throughout the age-long effort to describe nature in mechanical terms those terms will retain their original and primitive meaning? Will mass forever and infallibly suggest the name of Galileo or Democritus, or space the name of Euclid, or time the name of Kant or Newton? To a student of the history of scientific conceptions nothing could appear more improbable, nothing could appear more unnatural than this.

The difficulty of a number of gentlemen who call themselves "realists" consists, or so it seems to me, in the assumption of an absolute mechanical order, which, if not grasped, is at any rate grasped approximately. Approximately to what? Why, to that absolute which he assumes, but about which he remains inarticulate. Let him define what he means by the real order of nature and I shall understand what is meant by a knowledge which approximates to it. But define it in his sense he can not.

Choose as an illustration, if you will, the simplest experiment to be found in the laboratory list. Suppose that your problem is to find the distance between two scratches on a piece of glass. He will say perhaps that there is an observed or approximate length and there is also an absolute length, which, because of

the error attached to every observation, remains forever unobserved. The real length is the limit of a series of approximations, a *Grenzbegriff*. You focus the cross wires of your micrometer microscope upon the object and you take in succession a number of readings. These readings differ *inter se*. They can not all be "true." It is meaningless to speak of any one as "correct." The arithmetical mean is the "best" approximation. Approximation to what? Why, to the *Grenzbegriff*.

Now I can understand what it means to speak of a limit to the series, $1 + \frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \ . \ . \ .$ because each term is formed from its predecessor according to a definite law. But what does it mean to speak of the limit of the fraction, $10.7 + 10.1 + 10.3 + \ . \ . \ . \ +$ (the nth observation) divided by n (where the numerator contains the sum of your scale readings), when n is increased without limit? Each reading bears no necessary relation to its predecessor or to its successor. Each one is *accidental* and for any finite number of readings, which is the most you can take, the arithmetical mean is accidental too. And so I assert that it is meaningless to speak of the limit of such a series. Or to state the general truth, of which this case is a simple exemplification, the real object of perception can not be conceived as *Grenzbegriff* or as the limit of a series of approximations. What these conflicting observations betray is the presence of a mind as an essential part of the total situation and not the presence of an absolute object.[3]

If there is no absolute object, no more can the mechanical system, in which objects are found, be taken to be absolute. Thus it is not uncommonly sup-

[3] See the chapter, "A Spirit Which Includes the Community."

posed that, while the future is in some small measure under man's control, the past must remain irrevocable and quite unchanged. "What is past is past," and "what has happened has happened," are the tautologies, which are supposed to force this truth upon us. No doubt at all about the tautology itself. But what *is* past and what *has* happened are exactly the matters which ever have been and will ever be in dispute, world without end. Having gone thus far I am quite prepared to go further and I shall venture to assert that the past is no more irrevocably determined than is the future. It is just as plastic, just as amenable to our interpretations. What was the azoic age, you may well say, when no one was there to observe it? *An sich* it was like nothing so much as nothing at all. It all depends upon what observer you imagine to have been present. It is nothing, if not the product of his experience and his reflection. To the soul of Empedocles, seated it may be these two milleniums on the rim of Saturn, it has seemed, you may be sure, a mingling and unmingling of the four elements, earth, air, fire and water, guided by the opposite principles of love and hate. To the "Copernicus of antiquity" and some of the later Pythagoreans it would have had a heliocentric cast and to Newton it would have been without doubt a collection of masses attracting one another directly as the product and inversely as the square of the distance between their centers. Not only is the past plastic in the same sense in which the future is plastic, but it is ever being made to conform more and more to deep-lying human desires. I mean, too, that these desires, being as often as not misguided, are as constantly being given up in the light of an experience that is ever enriching itself.

There remains the question: what is the place of

consciousness in a world thus mechanically ordered? Our answer must be brief, for the argument is already well known. Let one illustration suffice. I am quite unaware, of course, physiologically speaking, what a "prick" of conscience may turn out to be. In order to have before us a concrete example, which in the case contemplated is to speak medicynically, let it be granted that a "prick" of conscience is the same thing as a spasm along a yard or two of the intestinal tract. Does any one suppose that the owner of this "apparatus" of conscience is the only one in a position to observe the significance of its behavior? No doubt he is favorably "placed" to interpret it as a summons to action of some appropriate sort. But is he the only one in a position to offer judgment? In point of fact the opposite is very frequently the case. His physician, or it may be his father confessor, who is privy to some shady financial transaction of his, may easily diagnose his case better than he can judge it himself. He may not even recognize his persistent malady as a prick of conscience at all. His physician, or his friend, it may be, recommends him to go and do otherwise; his malady disappears and is followed by a peace which surpasses even that small understanding which he has of himself and his world. It is nowise affirmed that a physiological description of what a prick of conscience may be exhausts all of the meaning therein contained, for such a happening may have far-reaching social and esthetic consequences. Set down in New England and become universally "bred in the bone," it may be fairly decisive of the character of a literature and of the domestic habits. A spasm along a yard or two of the intestinal tract may or may not be a great deal more than just that. This simple view, that more than mechanism can be

seen in a world seen to be mechanically ordered, will yield an answer, I think, to all of Mr. Lovejoy's five conundrums. The order of purpose in nature and the order of mechanism are independent of one another in certain important respects. You cannot describe nor can you account for any purpose in physico-chemical terms. It is within the teleological order and nowhere else that man is *free,* and his freedom is demonstrated, whenever it is possible for him to attach to his acts an abstract or rational meaning.

In concluding this chapter I shall venture a definition of objectivity. I should like to say that what is *objective* in the order of mechanism and what can be rationalized mean precisely the same thing. When Pascal repeated the experiments of Torricelli to determine the weight of the atmosphere from the tower of Saint-Jacques-la-Boucherie, that ancient conceit that nature "abhors a vacuum" no longer corresponded to anything real and had happily to be given up. Such illustrations from the history of the sciences might be greatly multiplied. I shall cite only a single one from the experience of daily life. Imagine yourself on the deck of a fast-traveling ocean liner and suppose a gull to fly across the bow. In a moment or two he is swept far astern but a little later you see him again following the same course at right angles to the direction of the boat. As you consider this experience you cannot resist the impression of a *force* that bears him rapidly away. Is this force real? Evidently not, for it has been irrationally assumed. You discard it as hypothesis as soon as you have explained your experience in terms of the relative motion of the two bodies involved. It is not real because its reality does not consort with a more rational understanding of the facts.

Radical Idealism

To formulate the definition of a fact from which the existence of the fact is a necessary implication, is the ideal of rationalism. The difficulty of the rationalist's position seems patent to the empiricist, who regards his fact as directly given in experience. James used to say that the kind of philosophy one chooses depends upon what kind of a human being one happens to be. If temperamentally one prefers reality to general information, he will be empiricist; while if his philosophic needs compel him to rank the whole as of greater interest than the part, he will be rationalist. In the one case he prefers to submerge himself in the world and lose himself with a consequent gain in reality, while in the other case he elects to elevate himself above the world and so be at a loss to account for the facts of experience.

Absolute knowledge viewed as the limit of a series of approximations, may be regarded as attainable if the series have an end, unattainable if the series be infinite. In the last case the philosopher may regard his absolute as the percept of a divine intellect or resort to a pre-established harmony of his primal substance or by some postulate or other satisfy this philosophic need. The rationalist either regards this knowledge as attained when his definition is at hand (as Descartes), or if it be the last of a series of definitional implications, its attainment will be determined by whether or not this series has an end. The absolute knowledge of Hegel is a result of this kind, and its method to follow the history of natural dialectic, the viewing of inner experience in its successive manifestations.

The true view is to be regarded as the outcome which dialectic deduces from the clash of conflicting standpoints. The systems in which great thought has been given classical form are not to be regarded as ways of exhibiting the same truths with greater or less success, but rather as a continuous dialectical development which constitutes the growth of metaphysical experience. "To become acquainted with spirit in this its office of guidance is the object of our inquiry." Forewarned that the successive shapes into which this experience is cast, are not the goal, consciousness views the process as the *road of appearances;* the shapes at hand present but phenomenal knowledge. The task which the science of mind prescribes for itself is to transcend these its accidents. Each succeeding point of view, as the child of one that goes before, is committed to the death of its parent. Viewed in this light the task of metaphysic postulates a faith in its outcome. "It is an inference from the history of the world that its development has been a rational process . . . that the world-spirit unfolds its nature in the phenomena of the world's existence."

Viewed for itself and not for its result the natural dialectic may be regarded as the *road of scepticism.* Not indeed a Cartesian scepticism, in which, when the doubt has been removed, the original opinion remains as it was before, but a scepticism whose outcome is quite the antithesis of the opinion which gave birth to it. It is the postulate of the untruth of the phenomenal knowledge with which it is committed to deal. It is the postulate that the self must follow its own conviction, or must construct its own opinion, that in truth the truth can only be the final product of the self. Compare in this connection two passages, the first from Fichte and the second from Schelling,

as making clear the source of the Hegelian view as thus interpreted:

"If it be undeniable that the speculative reason is indebted for every human advance that she has accomplished to the comments of scepticism on the uncertainty of her previous resting point . . . then nothing is more desirable than that the sceptic should crown his work and that the investigating reason should attain her exalted end."

"How infinitely more has the sceptic served the cause of true philosophy by declaring war on every system claiming universal validity! How infinitely more than the dogmatist who would have all minds swear by the symbol of a theoretical science"!

The life of natural dialectic is in conformity to law and its progress unavoidable. The context and interconnection of its phenomena on this road of appearances are the guarantee of its completeness. Since each point of view is the parent of the succeeding one, the omission of any term is the death of the sequence. Appearances are the demons the natural dialectic must overcome before mind is landed in the heaven of truth.

On this view the thinking self, as distinguished from the phenomenal self, is perceived as former, classifier and legislator in the world of appearances. "The final cause of the world we allege to be the consciousness of its own freedom on the part of spirit, and *ipso facto* the reality of that freedom." The self's thought is reality. The idealism which assumes this position for its starting point, but which has not trodden the path that leads to it, has not grasped the significance of its stand, for the demons of the road are yet to be slain. Its certainty is immediate but it stands by the side of other certainties that are equally immediate, which in truth may be

predicated with equal assurance. These alien certainties are *for me*, but in their presence I admit that something other than I is for me object and certainty. The truth of idealism has neither validity nor meaning when presented bald of the context of its deduction. "In affirming that reason does realize itself we have indeed nothing to do with the individual empirically regarded. That admits of degrees of better and worse, since here chance and speciality have received authority from the idea to exercise their monstrous power. . . . This reason in its most concrete form is God. God governs the world. The actual working of his government, the carrying out of his plan, is the history of the world."

The law of contradiction is for the rationalist the supreme canon of method. The object (as concept) whose definition implies its own antithesis is nothing. The dialectic progresses until through definitional implication the object of knowledge is defined whose truth is implied. This object is the absolute and is thus distinguished from all other objects of consciousness that appeared in the process, for the definition of each one of these is conceived as involving inherent contradiction.

It is suggestive to recall certain passages from Schelling in this connection, as making clear the source of Hegelian view as thus interpreted. The phenomena of the path of the dialectic are the conflicts of contradictory opinions. When the contradiction is removed, the phenomenon (now appearance) ceases to possess reality; it vanishes and leaves a nothing. Through the dialectic the successive scenes of conflict are left behind until through flight the promised land of the absolute is reached. For Schelling, however, to attain the absolute is to attain

pure self-consciousness. "All processes of the mind proceed with this in view, to portray the infinite in the finite. The end of all these processes is the self-consciousness, and the history of these processes is nothing but the history of the self-consciousness. Every process of the soul is also a determinate state of the soul. The history of the human mind will thus be nothing but the history of the different states through which the mind gradually attains unto intuition of itself, unto pure self-consciousness." And, again: "Had we only to do with the absolute there would never have arisen a conflict of different systems. Only when we have left the domain of the absolute does there arise a conflict regarding the same, and only because of this original conflict in the human mind, arise the conflicts of philosophers. Should it ever happen — not to philosophers but — to mankind, to be able to leave this domain in which they have lapsed through desertion of the absolute, then will all philosophy and that domain itself, cease to exist. For the latter originates only through that conflict and has reality only so long as the conflict continues." Again to quote from Fichte: "Epistemology (*Wissenschaftslehre*) is necessary not alone as a clearly conceived, systematically exhibited science, but as a natural predisposition — while logic is an art-product of the human mind in its freedom." These passages indicate the source of an opinion which has come to be regarded as typically Hegelian.

The *Phenomenology* begins with a consideration of the truth furnished the subject by the fact of immediate observation. When a series of observations is made on some definite quantity by the use (say) of an instrument, as is well known, the individual observations exhibit discrepancies among themselves and

this is the case when all known and avoidable sources of error have been removed. It is the custom of physical science to select a value of the unknown observed quantity, which gives what is regarded as the most probable value — the nearest approximation to the true value attainable with the data at hand. This, the physicist will say, is in answer to a logical demand — each one of a series of discordant results cannot be simultaneously true. In introducing the notion of error in this way, empirical science, either tacitly or openly, postulates a real fact forever beyond the reach of knowledge by experiment.

That this knowledge is unattainable seems to be a matter of experience, for while small errors seem to occur more frequently than large errors and while more refined methods of observation seem to give more exact results, even if the object observed were the same from moment to moment, the observer is not the same observer that he was a moment before. However this may be, it follows definitionally from the manner in which this real fast is postulated that it will ever remain unknown, for if an increasingly large number of observations give an increasingly accurate approximation to the true value and if the probable value of any finite number of observations will always have a probable error attached, then it is an immediate and necessary inference that the true value will be the most probable value of an infinite number of observations and that this true value has no probable error attached. But an infinite number of observations means, if it means anything, a greater number than can ever be taken — an infinite number of observations is by definition impossible. Therefore to postulate the fact thus is to postulate it unknowable — or the fact is unknowable by definition. It

cannot be said that the limit of the series is the true value, for the series has never a limit but always only a probable limit. The notion is that positive errors will cancel negative errors, but the law that states the equal frequency or facility of occurrence of positive and negative errors only holds when an infinite number of observations is obtained and this is equivalent to saying that it never holds. Again the chances are: $\infty : 1$ according to the postulate that any given observation has an error, and hence, definitionally, every observation has an error, which the true value has not. Since every observation has an error attached, whether the number taken be large or small, the compounded result is not an observation but an *universal* result, i. e. a similar set of observations would give rise to the same value of the unknown quantity. The true value would not cease to be a computation and become an observation in virtue of the number of observations passing from the finite to the infinite.

If it is the view of the empiricist that the real fact is postulated because of the discrepancies among certain observations, this is because he would avoid the sceptical conclusion that the truth is the last perception or that there is a different truth for each observer. In so far as this is his motive, however, he is not empiricist but rationalist; his postulate answers a logical demand. He is properly empiricist if he asserts that his real fast is postulated on empirical grounds, i. e., because it is a matter of experience that errors occur. But the notion of error is only introduced when a true value without error is postulated. If the observations had no probable error there would be no need of the postulate. If they have a probable error then a true value without error is

already postulated. Therefore, *a real fact is postulated because a real fact is postulated.* If the real fact be postulated in answer to the logical demand which asserts that a series of discordant results cannot be simultaneously true, then the real fact is postulated because of the law of contradiction. *The existence of the fact follows from the law of contradiction.* This would be the view of the rationalist.

The postulate takes another form when it is said that the real fact is postulated because of its definition. But its definition is equivalent to the assertion that it can never be known. The empiricist says: "It is because it is." The theologian asserts: "It is because it can never be known." He names his fact God and describes his postulate as his supreme act of faith. *Certum est quia impossibile est.*

Such an absolute is the natural meeting place for realism and idealism, but it is not one in which either realist or idealist is called upon to rejoice. The ground is cleared for an absolute scepticism. Having to deal with an unknowable which is absolutely real the sceptic can argue with his opponent as he likes. "The more information we have of our fact," we may suppose him to say, "the more real does it become. Of the absolute fact we have no information. Therefore, the absolute fact is absolutely unreal. But the absolute fact was postulated as the most real thing. Therefore, to define the absolute fact as the most real thing is to imply its absolute unreality." Again: "A thing that is not a possible object of consciousness is no thing. The absolute fact can never be known and is therefore nothing." These contradictions which seem to follow definitionally are not the only weapons of the sceptic. As an induction from experience, the realist or the idealist asserts that the real fact is never

the same from moment to moment. The real fact is postulated with the admission that it is in constant flux. Again the observer is not the same observer from moment to moment. There are as many real facts as observers. The postulator may rightly be called upon to explain this.

Fichte's fundamental postulate, "I am because I am," is akin to both the empiricist's and the rationalist's mode of assertion. In form it is the empiricist's: "The real fact is postulated because it is postulated." In content it is in the rationalist's manner, for the ego as pure activity is no thing (a passive something) and hence can never be object of knowledge. Hence, "it is because it can never be known." The expression "It is because it is," is familiar in the writings of those philosophers immediately following Kant. Thus in Hegel "the thing is and it is only because it is." In Fichte the "I" is predicted as existent *because* it is existent in the same sense. The purely logical law "A is A," does not hold without qualifications, such as, in the same place, at the same time, under the same circumstances, etc., etc. "I am I" holds without qualification since the subject in question is the absolute subject. Of the first we say: "If A is, A is"; of the second: "because A is, A is." The use of "because" in the sense of the present context might be expected since the real fact in this connection and the "I" in Fichte play the same part as "thing in itself." Each is predicated absolutely since neither has any *Erkenntnissgrund.* The "A is A" in Fichte finds its sufficient reason in the "I am I." In the Fichtean postulate, form and content being identical, the rationalistic and the empirical dilemma is supposedly transcended. This conclusion is the corollary which Schelling draws and clears the ground for his "iden-

tity system." This manner of satisfying the demand of the rationalist and empiricist at once, necessitates the assumption of an ego as pure activity which at the same time is no thing (nothing) and this zero answers the same demand as that of the real fact of science forever beyond the reach of experiment.

"In this choice, (we might imagine Schelling to say), in this choice as to how the "thing in itself" shall be postulated, the theologian has the courage to stand on the platform of his dilemma, but he fears to call his God what the concept implies. He clothes his concept with this or that unessential or accidental feature in his vain attempt to supply it with reality. He lacks courage to submerge himself in the real world. The materialist has the courage to submerge himself in his world but he is coward when asked to strip his world of its reality — to admit its absolute unreality."

The real fact is qualitatively the same as any individual observation of it. That is to say, if a mass be observed the real mass lies beyond observation but is nevertheless a mass of some definite amount. It is an *instance* of mass. The necessity of postulating it in this manner is the result of what we may call the necessity of perception. It is the necessity which assures us that we are not observing any one of a number of masses but a determinate mass; that we do not observe a length in general but a particular instance of length.

The most probable value of an unknown observed quantity is not itself observed; it is deduced as the result of a set of observations. The actual value of the unknown (i. e., the limit of the probable value when the number of observations is increased without limit) cannot then be an observation unless, as was

suggested before, it be argued that it ceases to be a deduction and becomes an observation in virtue of the number of observations taken passing from the finite to the infinite. The actual value (the real fact) is a general or universal result, i. e., a similar set of observations would lead to the same result. Of course if an infinite number of observations were taken a second time on the unknown quantity, each observation of the first set would supposedly occur in the second set but in a different position in the series, in such a way, however, that the implied result of each set should be the same unknown quantity. The real fact is not immediate as was supposed at first and before reflection; its truth appears as *universal*. As universal its necessity is the kind of necessity that follows on definition.

The contradiction at hand is the contradiction of definitional and perceptive necessity and the presence of this contradiction directs our attention to the fact that the original postulate has failed to meet the initial need. Our difficulty in the beginning was due to the experience that the individual members of a series of observations are not the same. This difficulty was supposedly removed when the individual discrepancies were attributed to the variable state of the observer and when the real result was postulated as independent of the observer, qualitatively the same as the perception of it, but always quantitatively different. Defined in this way, however, it ceased to be an instance of the observed quantity, since it is never perceived, and became universal. As universal, it fails, however, to meet the initial need, which was for a stable element in the flux of perception. The real fact must then remain an instance of the quality in question but an instance which is independent of the

perception of it, a "thing in itself." As such, however, its definition leads to the standing contradiction.

Besides its characteristic of being unknowable the definition of the real fact implies as well that it is a limit which may be approached as near as one may wish, but never attained. Viewed in this manner it is in the nature of an ideal. Its reality is the kind of reality that attaches to any other concept and is not a reality that subsists somehow independently of the subject. Like the "I am I" of Fichte, the subject postulates it and this is its sole ground of existence.

The truth of the certainty of sense has proven to be the universal. In the origination of this principle two factors separated out — the mental act of reception (perception) and the object. The two are in essence the same—their principle is the universal; the one is a separation of the elements (perception) and the other their combination (the object). Since it is the function of perception to be aware of the separate qualities as determinate and mutually exclusive, its essence consists in negation, determinateness or manifoldness. The perception differs from the immediateness of the supposed individual, for it exhibits itself as property or as universal. The properties in so far as they are determinate have a negative character attached to them, i. e., they are exclusive.

The universal as the truth is the essential; the perception and the object the unessential. However in so far as the latter are the things described through the universal, both are essential. Viewed in their reciprocal relationship the one must be essential and the other unessential. The object as that which exists for itself, whether perceived or not, must be further examined. On the view that the object possesses a self-subsistence apart from the perception of it, and

granted that its truth is in the nature of an universal, this same object exhibits itself as the thing of complex attributes.

The existence of a property is mediate in that it expresses its immediateness as its characteristic. It is mediate again in that it predicates itself as the negation of other simultaneously existing attributes. The several properties are differentiated, the one from the other, and are thus not only universals but instances of universality as well. The simple universal is rather the medium, in which the several properties subsist and of which they are the expressions — each and every property partakes of universality.

The properties of a thing exist together without disturbing one another. This characteristic constitutes the oneness of the thing. It abstracts from the differences and is a simple universal or the medium in which the properties subsist. This unity is nothing more than the "here" and the "now." The properties subsist together and simultaneously. This salt is white, it is also sharp, also heavy, also cubical in form. This indifferent "also" is the simple universal, the medium, the unity of the thing, which binds the properties together. This togetherness of a complex of properties, this indifference which they entertain toward one another, is characteristic of the object and constitutes its essence.

The members of a complex of properties have not however alone the purely negative feature of indifference to one another — they have as well a positive feature. If they are to differentiate themselves they must be determinate. They must deny their opposites as well as their indifferents. Thus in this sense they cannot subsist in the same medium. In this suit then to establish the object as the truth of perception, re-

flection has won the case for his client perception. The object is defeated on his own premises. It is asserted that the essence of the object is the indifference of the several qualities or their self-subsistence, and the pragmatic result which reflection brings out is the disappearance of the qualities, for these cannot be described save as mutually exclusive.

The negative character of the several properties — their indifference to one another, and the positive side — their opposition, exhibit two aspects of the medium: it is unitary; it is as well an "also." The discussion of the object as the truth of perception is then for the present complete. It is (1) passive universality, indifference, the "also," (2) the universal of opposition, the determinate, the one; and (3) the properties themselves, the relation of the first two aspects to one another.

The truth of the object in whatever aspect it may present itself, is the universal. All the properties as universals and the simple universal as the medium in which they subsist, are as such the possession of the subject. The subject, however, has as yet no assurance this this medium is invariant and hence no assurance that the manner in which its truth is given is always the same. If the subject furnishes any contribution to the datum, then the truth of the datum is changed. On the supposition that the object is the true, the universal, the essential, the self-subsistent, while consciousness is the unessential and the changeable, it can happen that the object is not rightly perceived. It is through the experience of this argument that the perceiver first becomes conscious of the possibility of deception.

The object as the truth of perception is the essential, the perceiver the unessential. If the perception

is incorrect it is the fault of the perceiver. The object, viewed in the medium, which is the universal, receives the stamp of the medium. Since the object is the self-subsistent and the true, the untruth arises in the perceiver. Assume that the truth of the object, which I perceive, is its unity, its individuality. I perceive the several properties as indifferent to, and as not affecting one another. Reflection distinguishes the properties as universals and as exclusive, i. e., it is not perceived in the medium in its true aspect. Reflection tells us that a determinate property excludes its opposites and its indifferents; the self-subsistence, the indifference of the several properties of the object constitute its individuality. As universals the properties are determinate, opposed to one another, excluding one another, i. e., I do not perceive the object correctly; reflection destroys the continuity of the object.

As a result of this dialectic circle, consciousness is landed on a higher level. As a result of these distinctions the experience is gained that the truth of the perception and thing perceived is to be sought in reflection. Consciousness corrects the former impression; it distinguishes truth conceptually attained from the untruth of perception. It is aware of reflection within itself as distinguished from simple perception. We are aware that the truth as well as the untruth of the object lies in consciousness. To be warned of the untruth of perception is to be armed against the possibility of being deceived. Thus when the contradiction of unity and multiplicity arises we recognize it as a distinction of thought.

If then the object is one, if its contradictory aspect — the mutually exclusive character of its attributes — arises in me, it is the subject which is responsible

for the destruction of the self-subsistence of the object. Properties are assigned to the object depending on the sense organ affected. The salt is white because brought before the eye; it is sharp when pressed on the tongue; cubical to the sense of sight and of touch, and so on. The subject contributes the latter result and distinguishes the properties from one another. The subject is the medium in which the properties subsist, and the truth of perception is to be sought in the subject. But the dialectic proceeds as before. It is characteristic of the several properties on account of their determinateness and mutual exclusiveness to destroy the unity and continuity of the object. The essence or truth of the object is then its unity, its continuity, i. e., a universal medium in which the properties subsist together.

Thus the circle is complete and we are returned to the starting point. The object is one only as opposed to other objects. But its unity does not distinguish it from other objects, but the determinateness of its properties — it is the same as any other object with respect to its oneness. It has properties which distinguish it from other objects. In truth it is the object which is white and cubical, heavy and sharp; or the object is the "also," the universal medium, and so conceived it is conceived in its reality.

These sophistries, the "also," the "in so far as," the "essential" and the "unessential" as well as the different "points of view," are the subterfuges of this lower consciousness in the role of the immediate certainty and of perception. They are the weapons of the so-called "sound common sense" on account of which philosophy is so often accused of having to do only with "things of thought." In this fashion is this

mode of consciousness accustomed to metaphysicize against metaphysics.

In its first form as a reality lying beyond its manifestations in experience and as the objective cause of perception the real fact is the cause of *appearances* and hence comes to be identified with force (*Kraft*). As the "inner truth" it is implied by its appearances, for it is only postulated because of these. "The expression of the force implies the force proper." But also in the opposite sense, as the cause of its manifestations it implies these. The force proper has appeared as an ideal, or it is conceptual in its nature, and the only way in which a concept can be the cause of anything in this connection is in the sense that its effects follow as the necessary implications of its definition. "The force proper implies its expression and follows upon the realization of its expression."

The use of the term force (*Kraft*) in this connection is intelligible when the habit of thought familiar in Fichte and Schelling is recalled. "She (the soul) does not intuite herself without exhibiting herself in an object. She will thus intuite herself as an object in which there is productive force." Of course the standpoint is the idealism that represents the world as the product of the self. "Since there is in the mind an unending striving to organize itself, so too in the outer world, an universal tendency to organization must reveal itself." And again: "No organization is thinkable without productive force. I should like to know how such force would come into matter, if we regard matter as a thing in itself. * * * There is a productive force in things outside us. Such a force is only the force of a mind; thus those things cannot be things in themselves — i. e., cannot possess reality

through themselves. They can only be the creations, the products of a mind."

"Force" appears then as an active principle in the sensible world and its activity is the necessity of definitional implication. In this sense it is the free self-active legislator for appearances and as the "inner" or "beyond" the perceived world it appears as a kingdom of laws, the true image of reality. This kingdom of laws, as the laws of definition and hence as creations of the self, is seen to be nothing but the realm of the self's activity. When these laws have been formulated the self's activity is realized, the curtain is raised on the "beyond" and the self-consciousness appears.

Nevertheless, it is patent that any instance of change in the world of perception is not implied by the law of change itself, for even if all the laws of the universe were formulated, an initial situation would have to be known before all past and future situations could be predicted definitionally. A physicist (as Laplace) might say: "Give me the mass, velocity and position of all the matter in the universe and I will predict any future situation." But without such data his completed description of the world is an empty form and in itself helpless without this alien assistance. The real fact, defined as beyond the reach of observation, was introduced at first as a "force" which would account for an initial situation. Since it lies beyond experience it is an ideal and is then recognized as the contribution of the describer. Through the experience of this transformation the self-consciousness makes its appearance, but the gap between the law as universal and its individual illustration is not bridged.

By the real fact as initially postulated one was far from meaning the self's activity or even a product due

entirely to the self's activity. The need to be met was that of an objective stimulus which should somehow remain stable in the flux of sense perception. If the truth be merely the last perception, a thoroughgoing scepticism results. Regarded as independent of the self, the real fact appears as a "thing in itself," (i. e., as no thing) and it comes then to be regarded as the constant or invariable character that attaches to change among things or as the law of change. In Hegel's words: *Die Kraft ist gerade so beschaffen, wie das Gesetz.* In this guise, however, it fails to meet the original need. The need was not for an invariable formula of change, but for a term that should remain invariable in such a formula. The initial motive is still unsatisfied if the real fact in its role of law fails to meet the initial need. That it does fail in this is patent if the law carries no criterion of the terms that enter into it, if it furnishes no test of its own application; for then we have two independent constants — the law itself and the terms that enter into it.

The alternative is to regard the law as the definition of the term. The real fact is that which behaves in the way prescribed. Thus mass is that fact which exactly satisfies the formula of the law of gravitation. Of course this fact cannot be independent of the self, and Schelling has been quoted above as saying that "the force in nature is nothing but the force of the mind." It is of course evident that the contrast of the law as *essence* and its individual realization or *instance* is not thus transcended. The requirements of an initial situation or instance is furnished for Fichte by the so-called intellectual intuition, the intuition of the self as pure activity, in which the self is seen to exist through the mere act of predication. The

problem which the idealism of Fichte does not seem to explain naturally is this: If the real fact is the ego, or the ego's activity, how is the multiplicity of egos to be explained and how is the conclusion to be escaped that there are as many systems of truth as there are egos? The answer to the first question might be that the number of real facts is no difficulty so soon as one is at hand, or as soon as a starting point is attained. For Hegel the absolute is not reached on the attainment of the pure self consciousness, this representing but a station in the progress to the final goal.

Reflection upon the problem of change and its explanation continually points to the standing contrast of these two worlds — the one the domain of rationality, of definition, of description, the intellectual, the fixed, the birthplace of inferences; the other the realm of perception, the changeable, the world of appearances, where accidents, the unclassified and undescribed residue of existing things are born. It is in the latter sphere that natural law seems to find its realization. The concept of law, we are tempted to say, cannot be the essential aspect of change, for the concept is only created in answer to a practical demand. It is in essence an afterthought, a postulate superadded. If the determinate character of law is that which adheres to appearance or has its sufficient reason in appearances than this feature of law is accidental. We are accustomed to contrast the concept with what is accidental to our formula of change, but in developing this contrast we are continually reminded that what is accidental is incidental as well. The accidental as the unexplained residue is father to the concept, for its existence provokes a logical demand. It arouses an activity whose response is the concept. As such it is a "force" responsible for the

creation of its own antithesis, and on this view it is prior to its antithesis. The concept that does not arise in answer to a practical demand is a phantasy of the imagination and itself an accident and thus the meaningful or intelligible concept is essentially dependent upon the phenomenal. Nevertheless since the accidental is not meaningful until its contrast with what is essential comes to light, the concept is prior to the appearance. If the latter be contrasted with the concept, then it is the concept of law that exhibits the law's inner necessity.

A law establishes or states a relationship that obtains among appearances and at the same time presupposes a difference or a distinction. This difference is however a general one; the law furnishes no test of its own application. The distinction supplied is not one which cleaves to the sensible world itself but is furnished by the understanding. It is not one that attaches to the thing in itself but is rather supplied by the subject. The necessity of the law which describes the behavior of positive and negative electricity with reference to one another for example, is the necessity which follows on the definition of the describer. This is to say that it is its own necessity which the understanding predicates, and not a necessity that inheres in the natural event itself.

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